Fishing Piers:
Design Guidelines to Enhance Recreational Fishing
11/1/2005

Prepared by:

Mark Johnson, Senior Fisheries Biologist, Habitat Conservation and Enhancement Program, Inland Fisheries Division.

Rod MacLeod, Senior Fisheries Biologist, Recreational Fisheries Program, Marine Fisheries Division.

DEP Marine Headquarters, Old Lyme. Phone # 860-434-6043.

Introduction

The purpose of this document is to provide guidance to those interested in building a recreational fishing pier or similar structure. Staff of the Marine Fisheries Division and Inland Fisheries Division has had the opportunity to review a number of proposals for fishing piers and similar structures submitted by municipalities, businesses and private associations. These reviews are typically conducted through the various DEP application processes for grants and permits. Staff observed that some proposals did not fully consider how siting and design affects the function of a pier. Therefore, this document was prepared to assist individuals with the design of a functional pier and to encourage consultation with DEP staff early in the siting and design phase.

Three key aspects of fishing pier design are discussed in this document. First, properly siting the pier is important to provide the best fishing experience and reasonable access. Second, the pier must be designed to enhance, rather than hinder, fishing opportunities. For example, the lack of functional railings has been a problem in the past. The problem stemmed from confusion over applicability of State Building Code (SBC), Occupational Safety and Health Administration (OSHA) codes and Americans with Disability Act (ADA) guidelines. And third, amenities that increase the utility of a pier should be included.

Readers should note that this document is not intended to provide a comprehensive discussion of pier design or the various issues that one may encounter when proposing a facility. Further assistance can be obtained by consulting the resources listed at the end of the document.

Siting Considerations

Potential fishing pier locations should be evaluated for their proximity to productive fishing areas. In many cases, the suitability of a site may already be known by local anglers, or can be determined by observing the level of current angler activity and success. But in general, productive fishing can often be found in areas that feature structural diversity and varied bathymetry. In lakes and ponds, features that attract fish include submerged and emergent vegetation, vegetation overhanging banks, rock piles and dropoffs. In streams, fish take

advantage of the cover created by rocks, undercut banks, logs and deep pools. Larger rivers may have all of these features and more, such as deep channels. Fishing piers should be sited such that anglers will be within casting distance of these features. Indeed, one of the advantages of building a fishing pier is that it can allow shore-based anglers to reach features that lie beyond normal casting distance from the shore.

In coastal areas it is important to examine the depth of water at all tide stages. From the perspective of achieving the most diversified and productive fishing experience, the least desirable locations are relatively featureless tidal flats where there is no water under the pier for extended periods. It should be noted, however, that even these locations could be productive for certain species during the right tidal stage and season.

Fishing piers should also be located in areas where the public can access them. Adequate parking is essential, and the pier should be within a reasonable walking distance and have an accessible (ADA) route to the pier.

The Marine Fisheries Division can be contacted for assistance with the evaluation of potential sites in coastal waters. The Inland Fisheries Division can assist with siting piers on lakes, ponds, rivers, and streams (refer to Resources for contact information).

Design Considerations

The purpose of this section is to address several issues that have been encountered when reviewing pier designs. These are: 1) how the ADA guidelines, SBC and OSHA codes apply to recreational fishing piers; 2) the importance of functional railing design; and 3) the inclusion of amenities and public information signs.

As discussed above, the design of recreational fishing piers has been well detailed in a number of publications. Readers are encouraged to explore these and other resources listed at the end of this document for detailed assistance with pier design.

1. The Americans with Disability Act, State Building Code and U.S. Occupational Safety and Health Administration Issues relative to fishing piers

The Federal ADA requires that all public facilities provide access for persons with disabilities. Prior to 2002, the ADA did not specify design guidelines that would provide barrier-free access for recreational facilities, including fishing piers. To address this issue, the States Organization for Boating Access (SOBA) published a document called *Design Handbook for Recreational Boating and Fishing Facilities* (Wilson 1996). The document described existing national Architectural and Transportation Barriers Compliance Board (Access Board) standards that apply to recreational facilities, and recommended a number of guidelines for structures not addressed by the Access Board standards[1]. The guidelines addressed structural features such as approach slopes (e.g. pathways, gangways), deck board spacing and railing designs.

[1] The Access Board is the designated agency responsible for developing minimum ADA accessibility guidelines.

On September 3, 2002, the Access Board issued a final rule titled *Final Accessibility Guidelines for Recreation Facilities*. The final rule, which is an amendment to the Americans with Disabilities Act Accessibility Guidelines (ADAAG, 36 CFR Part 1191), includes guidelines for fishing piers. The guidelines are similar to those developed by SOBA, but are not as extensive. In light of the new rule, SOBA will be updating the 1996 *Design Handbook for Recreational Boating and Fishing Facilities*.

As of this writing the U.S. Department of Justice has not yet adopted the final rule. The guidelines are not mandatory until the rule is adopted[2]; however, since a facility must be accessible pursuant to ADA, the rule can be used to design an accessible facility (refer to the Access Board website for a full discussion).

Piers, boardwalks and platforms constructed over water are subject to the SBC. Exemptions from the code can be obtained for the purpose of constructing a functional fishing pier and to meet ADA requirements (Christopher Laux, State Building Inspector, pers comm.). The most common example is the need to obtain an exemption from the code specifying a minimum railing height of 42", which is too high for fishing piers (see below). Project designers should contact the State Building Inspector to discuss their project and the need to apply for a Request for Modification or a Request for Accessibility Exemption for the purpose of building an ADA compliant fishing pier.

During the rulemaking process culminating in the Final Accessibility Guidelines for Recreation Facilities, the Access Board determined that the OSHA codes do not apply to recreational fishing piers since OSHA standards are restricted to job responsibilities performed in a workplace. However, in instances where a pier is used for both work and recreational purposes, the OSHA standards may apply. This issue is addressed in the final rule.

For additional information about how OSHA codes and the SBC relate to the adopted guidelines, readers are encouraged to refer to the Access Board's Recreational Facility Final Rule posted on the Access Board website. In addition, since SBC, OSHA and ADA codes and guidelines may be revised from time to time, the appropriate agencies should be consulted to obtain the most current information.

2. Railing design considerations

The railing design strongly affects an angler's ability to fish from a pier. Depending on the height of the railing and spacing of vertical elements (posts, balusters, etc.), a railing can either hinder or enhance fishing. In general, it is easiest to fish from a pier that does not have a railing. However, most individuals constructing piers wish to have some type of railing for safety and liability reasons.

To address safety issues, designers often use specifications that conform to the SBC, which requires railings to be a minimum of 42" high and vertical elements spaced such that a four-inch

[2] According to Paul Beatty, Accessibility Specialist with the Access Board, the guidelines must be adopted by the U.S. Department of Justice, but there is no required time frame to do so.

sphere cannot pass through any opening. However, these specifications can render a pier almost useless for the purpose of fishing. For children, persons in wheelchairs and even many adults standing at a railing, a height of 42" is too high to cast over and retrieve lines, and it can be very difficult to bring fish over such a high railing. Many people like to sit in a chair while they are fishing, but a 42" railing makes this very difficult and unenjoyable. But as discussed above, it is not always necessary to construct railings to SBC specifications if the proper exemptions to the SBC are obtained.

Designers should first consider whether a railing is necessary for safety or other concerns. For instance, the Engineering Unit of the DEP Agency Support Services Division evaluates site characteristics to determine if a railing is necessary on fishing platforms less than 24" to 30" above the ground or water (Eric D. Ott, PE, Supervising Civil Engineer, Engineering Unit, pers comm.). For example, a pier located in strong current upstream of a waterfall represents an obvious case where a railing would be required.

If a railing is necessary, then it is important to consider who will be using the facility. A pier built for the general public might have a different railing design than one built primarily for children. In the latter case, a lower railing may be needed to enable children to fish from the pier.

The guidelines adopted by the Access Board in combination with the SOBA guidelines can be used as a starting point for a railing design that will provide reasonable opportunities for most anglers. Similar to SOBA, the Access Board proposed rule specifies that a *minimum* of 25% of the railing should be a *maximum* height of 34". The lower sections must be dispersed throughout a fishing pier or platform to enable anglers with disabilities to have access to different areas of the pier. SOBA has additional guidelines that define the width of the lowered sections, gaps in the railing for the purpose of retrieving fish, and spacing of vertical elements to avoid creating a feeling of confinement for those in wheelchairs.[3]

The Access Board and SOBA guidelines should be considered only as a starting point because the full benefits of a pier may not be realized if it is built according to the minimum guidelines. For example, if only 25% of the railing is at a lower height, the ability of many anglers to fully utilize the pier could be greatly compromised. Those who are unable to fish over higher railings will not be able to fish if the lowered railing areas are occupied. The lowered openings determine where some people will be able to fish from the pier, even though that may not be the best place to fish from on any particular day.

To address these concerns, we recommend the following railing guidelines, which have been adapted from the Access Board and SOBA guidelines:

- If a railing is needed, it should be no higher than 34" throughout areas where fishing is possible (i.e. wherever there is a suitable water depth), with the exception of areas where serious user conflicts may occur (e.g. adjacent to slips in a marina).

[3] The SOBA documents mentioned above describe the experience of sitting in a wheelchair and looking through balusters spaced 4" apart as like being inside a cage

- The top rail board should slant inward approximately 45 degrees. An angled top rail discourages people from sitting on top of the rail, or placing tackle boxes and other items on it, which could be knocked off into the water. A slanted rail also provides anglers in wheelchairs, seated anglers, and children a more comfortable rest to lean upon.
- To eliminate the "cage" effect experienced by those in wheelchairs or who are shorter than the railing height, horizontal midrails and vertical supports should be spaced to reduce visual impediments. SOBA guidelines specify that a horizontal midrail should be positioned at half the height of the top rail. Vertical supports should be 4 feet apart. A curb with a height of 2" should border the edge of the deck.
- To make landing fish easier, there should be gaps in the railing that are free of any obstruction. SOBA guidelines recommend a minimum gap of 9" wide, with gaps no more than 8 ft apart.

Many of the SOBA guidelines, including the reduced railing height and horizontal and vertical spacing, have been successfully incorporated into piers constructed and maintained by the Connecticut DEP and Department of Transportation, including the piers at Ferry Landing State Park in Old Lyme, Baldwin Bridge Boat Launch in Old Saybrook, and Fort Trumbull State Park in New London. Similarly, the city of New London has incorporated some of the guidelines in the design of New London Waterfront Park. In some of these cases the minimum guidelines were exceeded, such as the Ferry Landing State Park pier, which has 34" high railings throughout the pier and a very open support structure.

3. Amenities and access information

Amenities such as cutting boards, rod holders, lighting, and running water enhance fishing from a pier (Breem and Rigby 1986, Buckley and Walton, 1981). By providing cutting boards, fewer anglers will cut bait on railing and deck surfaces. Rod holders can be made of PVC pipe, or if an angled top rail is part of the design, holes can be drilled into the top rail to hold rods. A good example of this method is the Fort Trumbull fishing pier – holes were drilled about every two feet in a 2 x 8 angled cap rail made of recycled plastic. Lighting is helpful for night fishing, serving to attract fish as well as enhancing safety and security. A supply of running water allows anglers to clean their hands and equipment.

Fishing piers should be adequately posted to inform the public that fishing is allowed. Similarly, parking areas and access routes should be clearly indicated. Signs listing rules for pier use and current fishing regulations should be posted. Fishing regulation posters may be obtained from the Marine Fisheries Division in Old Lyme, or from the Inland Fisheries Division in Hartford.

Summary of Considerations and Recommendations

1) Fishing pier siting considerations.
   - Fishing pier should be located in productive fishing areas. Factors to consider include:
     - Knowledge of local anglers.
     - Casting distance to underwater features that might attract fish, such as rock piles, submerged vegetation and channels.
     - Types of fish likely to be caught.
     - Sufficient water depths at various tide stages and seasons.
   - Sites should be evaluated for suitable parking and access to the pier.

2) Fishing Pier design considerations.
   - Railing design
     - The need for a railing should be evaluated and used only when necessary.
     - Railings should be as low as possible, and not exceed 34".
     - Avoid closely spaced balusters; preferred vertical support spacing is a minimum of 4 feet.
     - If a horizontal midrail is used, it should be positioned at half the height of the top rail.
     - Place gaps in the railing that are free of any obstruction. Gaps should be a minimum of 9" wide and no more than 8 ft apart.
   - Incorporate handicapped accessibility features.
   - Incorporate amenities such as cutting boards, rod holders, lighting, and running water.
   - Post public access signs, fishing regulations, and other information concerning natural resources and fisheries.

Resources

Publications offering ADA guidelines for recreation/fishing piers and platforms:

United States Access Board. 2003. Accessible Fishing Piers and Platforms. This free document is available on-line at www.access-board.gov, or by calling the U.S. Access Board at 1-800-872-2253.

Wilson, K. 1996. Design Handbook for Recreational Boating and Fishing Facilities. Prepared for: States Organization for Boating Access, P.O. Box 25655, Washington D.C. 20007. Available for a fee from SOBA at www.sobaus.org.

Technical advice for ADA recreational guidelines and fishing pier construction:

Architectural and Transportation Barriers Compliance Board (Access Board) web site: www.access-board.gov.

Connecticut Department of Environmental Protection, Bureau of Financial and Support Services, Agency Support Services Division. Phone # 860-344-2513 (Portland Office).

Suggested contact: Eric D. Ott, PE, Supervising Civil Engineer, Engineering Unit. Mr. Ott helped develop the SOBA guidelines, has been involved in the construction of State of Connecticut recreation facilities and provides guidance to those interested in constructing piers, including fishing piers. He has put into practice many of the SOBA guidelines.

Office of Technical and Information Services, Architectural and Transportation Barriers Compliance Board, 1331 F Street, NW., suite 1000, Washington, DC 20004-1111. Telephone number (202) 272-0012.

Suggested contact: Paul Beatty, Accessibility Specialist. Mr. Beatty staffed the Board's Passenger Vessels Advisory Committee, assisted with the Recreation Access Advisory Committee, and was extensively involved with the development of final Accessibility Guidelines for Recreation Facilities.

***For general assistance with ADA*:**

Office of Technical and Information Services, Architectural and Transportation Barriers Compliance Board (see above).

State Of Connecticut Office for the Protection and Advocacy for Persons with Disabilities. Phone # 1-800-842-7303 or http://www.state.ct.us/opapd/index.htm

Long Island Sound recreational fishing information, regulation posters and pier siting assistance:

Rod MacLeod, CT DEP, Senior Fisheries Biologist. Marine Fisheries Division, Marine Headquarters, Old Lyme. Phone # 860-434-6043

For comprehensive fishing pier information:

Breem, A. and D. Rigby. 1986. Fishing Piers: what cities can do. The Waterfront Press. ISBN 0-935957-01-4. 76p.

Buckley, R. M. and J. M. Walton. 1981. Fishing Piers, their design, operation and use. Washington Sea Grant, University of Washington, Seattle, WA. Rpt WSG-81-1. 29p.

For examples of fishing pier design in the coastal areas of Connecticut, readers are encouraged to visit piers at the following locations:

Ferry Landing State Park, 333 Ferry Rd, Old Lyme. Fishing pier is on the Connecticut River and Lieutenant River.

Baldwin Bridge (I-95) Boat Launch, Old Saybrook. Pier is on the Connecticut River.

Fort Trumbull State Park, New London. Fishing pier is on the Thames River.

New London Waterfront Park, downtown New London. General public access pier along the Thames River with specific fishing pier components.

Regulatory and permitting information

Structures proposed waterward of the high tide line require authorizations from the DEP's Office of Long Island Sound Programs and the U.S. Army Corps of Engineers. The following offices should be contacted for permitting requirements:

CTDEP, Office of Long Island Sound Programs, Permitting and Enforcement Section, 79 Elm St., Hartford, CT 06106-5127; or, call 860-424-3034

U.S. Army Corps of Engineers, New England Division, Regulatory Branch, 696 Virginia Road, Concord, Massachusetts 01742-2751; or, call 800-343-4789

Structures proposed in inland areas may require authorizations from the municipal inland wetlands and watercourses agency, the CT DEP Inland Water Resources Division or the U.S. Army Corps of Engineers. The following offices should be contacted for permitting requirements:

Municipal inland wetlands and watercourses agency.

CT DEP, Inland Water Resources Division, 79 Elm St., Hartford, CT 06106-5127; (860) 424-3019

U.S. Army Corps of Engineers, New England Division, Regulatory Branch, 696 Virginia Road, Concord, Massachusetts 01742-2751; or, call 800-343-4789

For structures located in inland areas that are tidally influenced, applicants should contact both the DEP Office of Long Island Sound Programs and the Inland Water Resources Division.